

**IEEE
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E-LETTER**Vol. 1, No. 2, August 2004**

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The MultiMedia communications Technical Committee (MMTC) is a volunteer group that examines systems, applications, services and techniques in which two or more media are used in the same session. These media include, but are not restricted to, voice, video, image, music, data, and executable code. The scope of the committee includes conversational, presentational, and transactional applications and the underlying networking systems to support them.

**MULTIMEDIA
COMMUNICATIONS**

- JOIN US -

Joining MMTC is easy. Simply send an email to list@comsoc.org with the following string in the body of the message (NOT the subject line):
join multicommm

The mailing list, multicommm@comsoc.org is the communication channel with the MMTC. To post a message to the list, send e-mail to multicommm@comsoc.org.

You can also navigate through MMTC mailing list archive (since Feb. 2004).
<http://barbarian.comsoc.org/comsoc.org/multicommm/>

Future MMTC Meetings

Globecom 2004, December 2004, Dallas, Texas
ICC 2005, May 2005, Seoul, Korea

GLOBECOM 2004 MMTC Activities**WORKSHOP**

NIME04 – 1st IEEE International Workshop on Networking Issues in Multimedia Entertainment

Monday, 29 November – Full Day

ICC 2005 MMTC Activities**TECHNICAL SYMPOSIUM (May 16-20, 2005)**

ICC 2005: Multimedia Communications and Home Networking Symposium



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E-LETTER E-I-C

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A WORD FROM THE E-LETTER E-I-C

Marco Rocchetti

I would like to begin by thanking everyone involved in making this second issue of the E-Letter become a reality; this includes all of the assistant editors, proof readers, staff members, colleagues of the MMTC, and of course everyone who submitted a contribution. The response to our calls for articles has been great – submissions of remarkable quality have been received from colleagues worldwide! This volume of involvement created a larger than expected workload, and made our decisions very difficult. It has been a very busy time for all of us, especially during a period when academic and professional commitments are so urgent. However, this level of interest only points towards the prospect of an even more successful and well structured forthcoming issue in December 2004.

Our opinion about the E-Letter is that this publication is not intended to be a simple *hiatus* while working to launch to different initiatives. Instead, our personal effort is going to be passionate and continuative in the direction of supporting the E-Letter. Our goal is to publish issues that focus on ideas, opinions, ongoing discussions, scientific headlines and future perspectives of multimedia, with an emphasis on the communication technologies.

To this aim, it is worthwhile noticing that the current E-Letter issue features a column provided by Leonardo Chiariglione, titled "We thought we were already there - we are not", which discusses issues on Digital Right

Management. A former Vice President at Multimedia Telecom Lab., the corporate research centre of the Telecom Italia group, Leonardo has recently established a not-for profit organization with the mission to promote development of digital media that can respect creators, rights holders, as well as end users.

Obviously, we have the hope that the E-Letter will grow as an highly-reputed outlet for serious discussion of scientific ideas on multimedia. Since one of the most important tenets is that our published articles and other features should serve as a starting point for facilitating discussions within the multimedia community, we invite everyone to become a regular contributor by submitting proposals for columns, short scientific articles and contributions, in general. (Information for submissions can be found on the MMTC web site: <http://www.comsoc.org/~mmc>)

Hence, if you like what you see, we encourage you to participate in our discussions, submit contributions, and finally become an official MMTC member. MMTC is always on the lookout for active participants, so please jump right in!

Enjoy this issue!

Marco Rocchetti Editor-in-Chief
E-Letter

We thought we were already there – we are not

Leonardo Chiariglione

CEDEO

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Until very few years ago those who have worked a full professional life to make the late 1940s visions of digital communication real could stay relaxed. Computer-to-computer communication was a done deal with the universal deployment of the Internet. Human-to-human communication using bits had given rise to the wondrous communication system known as digital mobile telephony. The splendours of digital content distribution had already been demonstrated by more than 10 years of Compact Disc, but audio and video compression had shown that more could be achieved by multiplying television channels or providing almost perfect video pictures. The combination of audio compression with digital networks and computers showed that liquid content was the future of media.

True, there were some areas of concerns, like the case of human-to-human visual communication. In spite of all efforts exerted it is not really happening but it is easy to put the blame on the slow progress of broadband access. So, the technically-minded people can be forgiven for thinking that we are already there, that 50-year old vision has been achieved.

Unfortunately we are not there yet. The vision has been realised through a huge international, multidisciplinary and multi-industry effort that lasted half a century and we should all be proud of it. Liquid content may be good for the few who create and look for fame, and for the millions who want to access content without bounds. But the kind of liquid content we have enabled is not good for those who have invested in the creation, production and distribution of that content. It is also not good because dangerous laws are being made in a hurry. Having solved the technical problems of digital communication we cannot relax and forget about the rest.

Many think that Digital Rights Management (DRM) is the panacea that will cure all the ills of digital media. Indeed, isn't it great to have a technology that lets right holders set the conditions in the use of their assets, and then use whatever encryption technologies they choose to distribute that content? Sure, with DRM we can achieve the goal of stemming the massive leakage of content we know of, but this happens at the cost of a major upset of a delicate balance between right holders, intermediaries and consumers, some aspects of which have even been

enshrined in national and international legislation in a process that has lasted decades and even centuries.

DRM can be a dangerous beast, but this is no reason to go that way. To tame the beast and use it for the good it can provide DRM must be qualified. The following are three basic issues surrounding DRM.

1. DRM must be interoperable. For the end-user this means the ability to access content of his choice without being bound to the technology of the service provider. In other words I should not be forced to change device when changing the source of my content. Existing DRM implementations all fail this basic criterion.
2. Usages of content by right holders, intermediaries and end-users, traditionally exercised either by custom or law, cannot simply be wiped away because DRM lets users do so, but must be technically supported.
3. DRM is not a purely technical or commercial issue. Its use must be regulated by law, not necessarily in a uniform way across countries.

For the last 12 months the author has been engaged in the Digital Media Project (www.digital-media-project.org), an international initiative that covers the 3 points mentioned above. The Digital Media Project is compiling a list of Traditional Rights and Usages and using them to develop technical specifications for Interoperable DRM Platform and Interoperable End-user Devices.

The Interoperable DRM Platform will let different business players on the value-chain make full use of secure digital technologies in their business and the Interoperable End-user Devices will let end-users access content interoperably. The Digital Media Project is also drafting a technical guide for lawmakers to help them find the best balance, in the interest of their constituencies, between DRM technologies and Traditional Rights and Usages.

About the Author

Leonardo Chiariglione obtained his Ph. D. degree from the University of Tokyo in 1973. During his professional career he launched several initiatives, e.g. MPEG, and received several awards, e.g. Emmy, John Tucker, Kilby Foundation and Masaru Ibuka. He currently advises a number of companies in the area of digital media.

COSPONSORING / RELATED CONFERENCES AND WORKSHOPS

NIME 2004

Nov. 29 – Dec. 3, 2004,
Dallas, Texas, USA

The first IEEE International Workshop on Networking Issues in Multimedia Entertainment (NIME) provides an open forum for researchers, engineers and academia to exchange the latest technical information and research findings on Next-Generation Multimedia Networking concepts, technologies, systems, and applications for entertainment covering existing deployments, current developments and future evolution.

CCNC 2005

January 3 - 6, 2005,
Las Vegas, Nevada, USA

IEEE Consumer Communications and Networking Conference (CCNC) will present the latest approaches and technical solutions in the areas of consumer networking, enabling technologies such as middleware and multimedia, and novel applications and services. CCNC 2005 will include a peer-reviewed program of technical sessions, technology application panels, tutorials, and poster/demo sessions.

ICC 2005

May 16 - 20, 2005,
Seoul, Korea

Today, the major trend of telecommunication networks and services is “convergence” and “seamless provision”. Reflecting this trend, IEEE International Conference on Communications (ICC 2005) chooses “towards the era of ubiquitous networks” as the theme of ICC 2005. Under this theme, ICC 2005 will feature the latest developments in telecommunications from a technical perspective and discuss likely trends with leading technical specialists from all over the world. At the same time, influential business figures will be invited to add business flavor to ICC 2005.

ICME 2005

July 6-8, 2005
Amsterdam, The Netherlands

IEEE International Conference on Multimedia & Expo (ICME) is a major annual international conference organized with the objective of bringing together researchers, developers and practitioners from academia and industry working in all areas of multimedia. ICME serves as a forum for the dissemination of state-of-the-art research, development, and implementations of multimedia systems, technologies, and applications.

CONFERENCE CALENDAR

CONFERENCE	LOCATION	INFORMATION
GLOBECOM 04 IEEE Global Telecommunications Communications	Nov. 29 – Dec. 3, 2004, Dallas, Texas, USA	http://www.globecom2004.org/
NIME 04 International Workshop on Networking Issues on Multimedia Entertainment	Nov. 29 – Dec. 3, 2004, Dallas, Texas, USA	http://nime04.csr.unibo.it/nime04/
CCNC 05 IEEE Consumer Communications and Networking Conference	January 3 - 6, 2005, Las Vegas, Nevada, USA	http://www.ieee-ccnc.org/2005/
INFOCOM 05 IEEE Conference on Computer Communication	March 13 - 17, 2005, Miami, Florida, USA	http://www.ieee-infocom.org/2005/
ICC 05 International Conference on Communications	May 16 - 20, 2005, Seoul, Korea	http://www.icc05.org/
VTC 05 Spring The 61 st IEEE Semiannual Vehicular Technology Conference	May 29 – June 1, 2005, Stockholm, Sweden	http://ewh.ieee.org/soc/vts/conf/vtsconf.html
ICME 05 IEEE International Conference on Multimedia and Expo	July 6 - 8, 2005, Amsterdam, Netherlands	http://www.icme2005.org/

ICC 2005 - Multimedia Communications and Home Networking Symposium

Papers offering novel research contributions in any aspect of Multimedia Communications, Services and Home Networking are solicited for submission to the ICC2005 Multimedia Communications and Home Networking Symposium. Papers may present theory, technique, applications, or practical experiences on topics including but not limited to:

Multimedia Communications

- IP Telephony, Real-Time and Streaming Media
- Joint Video/Audio Source & Channel/Network Coding
- Scalability and Interoperability in Multimedia Communications
- Error Control Schemes (Error Resilient Coding, Concealment, Recovery Techniques)
- Media Transcoding and Gateway Technologies for Heterogeneous Networks
- Multimedia Delivery over Next Generation (3G, 4G, Ad Hoc) Wireless Networks
- Multimedia Delivery to Energy-Constrained Embedded Devices
- Multimedia Communication Protocols & Cross Protocol Layer Design/Optimizations
- Media Server and Proxy Architecture and Design
- QoS Support for Multimedia Communications and Networking
- Content Security in Multimedia Communication

Multimedia and Network Services

- Online Gaming (Service, Architecture, Protocol, Security)
- Virtual Home Environment
- Content Distribution and Web Services (including Media Caching and Replication)
- Distributed Services Middleware
- Multimedia Broadcast, Multicast, Anycast Services (e.g., video conferencing, distance learning)
- Private or Peer-to-Peer Network Services
- Wireless Multimedia Services
- Networked Interactive Multimedia Systems
- Architectures for Multimedia Systems (e.g. Open Service Interfaces)
- Administration and Operation of Multimedia Service Sessions
- Emerging Trends, Standards, Applications, Services, and Field Trials

Home Networking

- Ad-Hoc Home Networks
- Home Networks Protocols
- Home Networks Architecture, Management (e.g., Zero Configuration Networks,) and Controls
- WAN Support of Home Networks
- Wireless and Wireline broadband access (Satellite, Wi-Fi, Bluetooth, Ultra Wide Band, DSL, Cable, Power Line, LANs, etc), Last Mile Network
- TV-Centric Home Networks, DTV, and Home Networked Entertainment and Games
- Residential Gateways, and Home Networked Appliances
- Intelligent Home Agents and Home Automation
- Multimedia Communications in Home Networks and QoS support
- Security in Home Networks
- Home Surveillance and monitoring
- Novel Home Networking Applications and Enabling Technologies
- Home Network Test Beds, Trials and Demonstrations

Questions regarding the theme/scope of the symposium should be directed to the symposium chair or program co-chairs.

Instructions for Authors: Technical papers should be submitted to the ICC2005, following the general ICC submission procedure and instructions. For details please see <http://www.icc05.org/main/main.html>

Manuscript Submission: September 1, 2004

Acceptance Notification: December 31, 2004

Final Manuscripts: February 1, 2005

Chair:

Dr. Stan Moyer,
Telcodia Research

Co-chairs:

Prof. Wenjun Zeng
Univ. of Missouri-Columbia

Prof. Gary Chan
Hong Kong University of Science and Technology

Dr. Heather Yu
Panasonic Technologies

Multimedia Tools And Applications*Special Issue on Advances in Consumer Communications and Networking*

The demand for networked consumer systems and devices is large and growing rapidly. At home, in a car or truck, at work or at play, Internet users want transparent internetworking of their systems and devices to provide them entertainment, information, and communications. This internetworking should be on-demand and should be set up with whomever or whatever users want, regardless of time or location. As a result, consumer networking is gaining increasing attention from industry, spawning a range of dramatically different solutions in different environments such as wireless, wireline, and power-line communications systems. These environments have their own strengths and challenges to overcome. The scope of consumer networking spans from the body area and personal area networks to home and wide area networks. In the not too distant future, we will see Ad hoc networks augmented with sensors sharing network information that enables devices and systems to seamlessly interact with Internet and wide area wireless systems such as WiFi, 3G and future 4G networks. This phenomenon, "Consumer Communications and Networking", has been attracting many researchers in diverse areas from networking to consumer electronics. The focus of this Special Issue is to present the latest approaches and technical solutions in the area of consumer and home networking. We solicit papers covering a variety of topics including, but not limited to:

- Ad-Hoc and Sensor Networks
- Body and Personal Area Networks
- Consumer Driven Applications and Systems for Networked Entertainment
- Consumer Network Architecture, Protocols, Management and Control
- Distributed Gaming Protocols and Systems
- Entertainment Networks
- Hybrid Network Architectures
- In-home and Inter-home Networking
- Integration and Interoperability Issues
- Last-Mile Network Technologies
- Multimedia Distribution Protocols
- Policy Support
- Programmable Networks and Mobile Code Platforms

- QoS Support and Performance for Consumer Networking
- Residential Gateways
- Security and Privacy for Consumer Networking
- Session, User and Device Mobility
- Thin Client Support
- Ultra Wideband (UWB) for Home Devices
- Vehicle Networks for Consumer Communications
- Wireless mesh and Wi-Fi for Home Networking
- Integration of wireless technologies for Consumer Electronics

Only original and unpublished research papers will be considered. Authors should follow the MTAP manuscript style described in the Information for Authors chapter of

<http://www.kluweronline.com/issn/1380-7501>.

Prospective authors should submit a pdf version of their complete manuscript (which should be compressed if the file size exceeds 1 Mbyte) according to the following timetable, directly to the e-mail address of prof. Marco Rocchetti, University of Bologna, Italy: roccetti@cs.unibo.it.

Manuscript Submission: November 1, 2004

Acceptance Notification: February 1, 2005

Final Manuscript: May 1, 2005

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MMTC INTEREST GROUPS

Based on the research interests of MMTC members, five IGs have been initiated led by experts and active researchers in each area. Detailed info about the IG charters, focus areas of each IG, and their activities are announced at

<http://www.comsoc.org/~mmc/>

and through the reflector. The five IGs are:

(MSIG) Media Streaming

Interim Chair: Pascal Frossard

Interim Vice-chair: Juan Carlos de Martin

(HNIG) Home Networking

Interim Chair: Prof. Madjid Merabti

Interim Vice-chair: Heather Yu

(MobIG) Mobile and Wireless Multimedia

Interim Chair: Prof. R. Chandramouli

Interim Vice-chair: Oliver Wu

(SecIG) Multimedia Security

Interim Chair: Dr. Qibin Sun

Interim Vice-chair: Suba Subbalakshmi

(QoSIG) Quality of Service

Interim Chair: Qian Zhang

Interim Vice-chair: Apostolis Salkintzis

Call for IG Members:

IG Membership: We encourage you to apply for IG membership. IG Membership is free. It is a great networking opportunity. It gives means to contribute to technical activities within the multimedia communications area. Information about how to join each IG will be available at the MMTC Web site. Please stay tuned.

AWARDS

MMTC is rolling out two committee awards given to our outstanding members and outstanding papers to encourage and promote research and services in the multimedia communications technical areas. The first awards will be given at the MMTC meeting at GLOBECOM 2004. Below, some highlights regarding the awards are given.

MMTC Distinguished Service Award – Given to a MMTC member with exemplary service to MMTC over a sustained period of time.

Prize

Certificate and plaque

Basis for judging

Exemplary service to MMTC over a sustained period of time

Eligibility

- The nominee must be a MMTC member at the time of nomination
- The nominee must have been a MMTC member for a sustained period of time

Candidates

- Dr. Charlie Judice
- Dr. Alex Gelman

MMTC Best Paper Award – Given to an outstanding paper in the area of multimedia communications published in any ComSoc magazine, journal, or ComSoc sponsored conference in the previous two calendar years.

Call for Nominations

IEEE Comsoc Multimedia Communications Technical Committee will give a yearly award to the Best Paper in the multimedia communications area. Any paper published in an IEEE Comsoc journal/magazine or in the proceedings of an IEEE Comsoc-sponsored conference/workshop/symposium, in the two years preceding the election, is eligible. The prize is an IEEE plaque signed by ComSoc President.

MMTC E-Letter

Nominations are solicited for the Best Paper Award 2004. Papers published in 2002 and 2003 will be considered. Exceptional papers published in 2001 could be nominated for the first award. Paper nominations have to be sent by email to MMTCawdcommittee@netscape.net, with subject line 'MMTC-BPA Nomination'. The nomination should include the complete reference of the paper, author information, a brief supporting statement (maximum one page), the name of the nominator, and an electronic copy of the paper when possible. The hard deadline for paper nomination is set to Sep. 30th, 2004.

An independent subcommittee has been created to evaluate nominated papers, and the Best Paper Award 2004 should be presented at GLOBECOM 2004, by the MMTC chair, to one of the authors of the best paper. The authors should be notified at least 6 weeks prior to the conference.

Additional information, and election by-laws are available on the MMTC website.

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To all MMTC members: If your postal address, telephone or fax numbers have changed, please update them with the committee secretary. You can review our current records on our web page at <http://www.comsoc.org/~mmc/>.

If you like to join MMTC Mailing List, the indications how to subscribe/unsubscribe are reported at <http://www.comsoc.org/~mmc/membership.html>.

Call for Perspective Articles for

The Multimedia Communications Technical Committee

E-Letter

Editor in Chief: Marco Rocchetti
IEEE Communications Society

Multimedia technology, networks and services are making productive use of important innovations in technical parallel fields: from signal processing and compression to storage and switching devices; from satellite and fiber -based communications to computer graphics and animation; from mobile and wireless systems to information security. A beneficial aspect of this phenomenon is that it is pulling together an extremely diverse group of experts specializing in technical converging areas. Even though such an ever-evolving environment promotes interdisciplinary fusion, however, teachers, researchers and professionals of the discipline need access to the most current information about the concepts, issues, trends and technologies in this emerging field. The **E-Letter** of the **Multimedia Communications Technical Committee** wishes to become a fast medium that provides a comprehensive coverage of the most important definitions, concepts, issues, trends and technologies in the field of multimedia communications technology. To this aim, the **E-Letter** of the Multimedia Communications Technical Committee welcomes submissions of Perspective Articles. Perspectives are articles written from the point of view of an expert in the multimedia technology field. They should focus on a particular technology or technology-related issue and how that technology or technology-related issue is being implemented and is impacting the multimedia arena. The E-Letter is seeking perspective articles on the subject of multimedia as it applies to the broad spectrum of multimedia communications. Also manuscripts for short essays and opinions may be considered.

Possible topics include, but are not limited to:

- Hardware and Software for Multimedia
- Home Networking for Multimedia
- Implemented Prototypes
- Mathematical Modeling and Simulation for Multimedia
- Mobile and Wireless multimedia
- Multimedia Communication Systems

- Multimedia Security
- Multimedia Design
- Multimedia Development Tools
- Multimedia Networking and Quality of Service
- Networked Multimedia Entertainment
- Quantitative and Qualitative Studies for Multimedia
- Streaming Multimedia
- Theoretical/Ergonomic Issues Regarding Multimedia Communications

Selected articles will be peer-reviewed and, upon acceptance, published in an upcoming issue of the E-Letter. All authors should consider the general nature of *E-Letter's* readership. Manuscripts should not have been previously published and must not be submitted for publication elsewhere. The **basic format to follow** is:

- Introduce the technology or issue being discussed.
- Discuss the technology's current or future impact on multimedia communications.
- Discuss pros and cons of the technology/issue.
- Discuss what the author is doing regarding this technology/issue.

Other Guidelines are as follows:

- Length should be no more than 2,000 words (three double-column pages).
- Articles should contain no more than 3 Figures. Figures and tables count for 300 words.
- Articles must contain no more than six references.
- Articles should be submitted in a .pdf format by e-mail to roccetti@cs.unibo.it.

Deadlines:

The next issue of the E-Letter will appear on December 2004. Perspectives are generally scheduled far in advance. Our deadline for receiving completed articles is 60 days prior to the cover date. For example, October 1st is the editorial deadline for the December issue. We may accept some material later than that, but special arrangements must be made in advance with the Editor.